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DR. WARE'S LECTURES ON GENERAL THERAPEUTICS.

LECTURE X.

It will be seen, from the statements already made, that one of the most potent agencies in promoting recovery from chronic affections is a perfect performance of the function of nutrition; and that, with a view to this, a due regulation of the diet is required. The general principles by which we are to be guided in this regulation have been stated, but there still remain a few other considerations that are to be kept in view.

Every case in regard to its management in this respect is to be studied by itself, and we are not to be governed by any arbitrary rules founded upon the supposed requirements of particular diseases. As has been formerly stated, precisely the same disease as to its pathological character, may require the most opposite arrangements as to diet in different persons, as well as in many other particulars. In pulmonary consumption, for example, one patient will thrive best upon a milk and vegetable diet—another upon a diet of animal food and stimulants. Why, we know not; we are to be governed by the fact that it is so, and not by any preconceived opinion that such or such kinds of food are suited to what we conceive to be the nature of the disease. The same is true of all other affections. It is true that in beginning the treatment we must be guided by certain general notions as to the nature of the case and its relations to particular kinds of food; but in this way we can only approximate to a true judgment of what the constitution of the patient requires. It is only by considering each case as an experiment, to be judged of on its own merits, that we can arrive at a satisfactory conclusion in what way it is to be managed.

Quantity has an important relation to the perfection, not only of the primary digestion of food, but also to the ultimate adaptation of the results of digestion to a perfect nutrition. The kind of food may be suitable, but a small excess in quantity may seriously interfere with its conversion into a proper material for nutri-

tion. This small excess is often felt in various ways during its presence in the digestive organs: by the state of the mouth, the breathing, the head, by *malaise*, and a general aggravation of symptoms; but even when not felt here or in addition to this, it may afterwards prejudice the progress of disease. The organs of assimilation can only perfectly prepare a certain quantity; any quantity beyond this is liable to introduce into the circulation, and present to the diseased parts, a crude and imperfectly elaborated material, which, although it may be borne with impunity by organs in a state of health, is liable to impair the sanatory process in those that are in a state of disease. In a state of health there is a power of selection which enables parts to correct in some measure the errors of the assimilation, to eliminate such portions of the material as are not suited to their purposes, and to cast them off by the excretions. In a state of disease, we have reason to believe, this power is impaired, or at least cannot be exercised without interfering with the attempt which is making to return to the normal condition. As a general rule, it is safer that the quantity should be somewhat less than can be satisfactorily assimilated, rather than greater. This is a frequent source of evil. Apparent weakness is so common a condition of those laboring under chronic disease, and is so obvious both to the patient and those about him, that there naturally arises an idea that this weakness is the principal evil to be contended with, and that its relief depends upon the amount of food that can be taken without positive and direct injury. In point of fact, the removal of weakness does not depend upon the quantity alone of nutritious material introduced into the blood, but also upon its quality; and upon the exactness with which it is capable of being applied to the necessities of the organs.

The form in which food is presented and the mode of its preparation, are also important items in the management of diet. This includes the question of a liquid or a solid diet, and also the degree of its dilution. Some patients digest liquids better than solids; and, of the liquids, those that are not highly concentrated. This can only be determined by observation, because differences in these respects are very common among those whose condition appears the same. Under the head of preparation are included all the particulars of the cooking, the mixture and the seasoning of food. So wide a subject can only be superficially glanced at. For the most part we are to prefer simple food, with no great variety at each single meal, but with considerable variety at successive ones, so far as this is compatible with the character of the case. Food which when alone is very successfully managed by the digestive organs, may cease to be so when combined with others. Of this we have the strongest example in mixtures where by the process of cookery they become pervaded by some form of oil; and this is more especially the case where its chemical character is changed by heat; but the same takes place, in a less degree,

with regard to sugar. Such combinations are withstood by many constitutions, sometimes permanently—by many only temporarily; but I am persuaded that the processes of cookery, of which these are samples only, are closely connected with that imperfect assimilation, and consequently that vicious nutrition, which not only hinder recovery from chronic diseases, but also have much to do with their origination. Mankind in general, and even physicians, are not sufficiently ready to look far back into the whole habits of life to account for disease. They attribute it to recent occurrences. But in the case of chronic affections at least, it is quite certain that, although their obvious onset may be sudden and determined by recent events, yet their existence is due to causes previously operating gradually and insensibly. Imperfect assimilation and faulty nutrition are probably the principal of these, and of other causes which contribute, such as cold, heat, bad air, the state of the mind, &c., it is probable that their efficiency is much due to their interference, either directly or indirectly, with the perfection of this fundamental function of life, either generally or locally. So also the distinct improvement in chronic disease from food, air and climate, from suitable exercise, from an improved condition of mind, and various other circumstances, is due to their influence on the digestion, the assimilation and the appropriation of the aliment.

The selection of a suitable diet is not, then, the only point of view in which this subject requires to be considered. The circumstances which are capable of influencing the whole digestive, assimilating and nutritive processes, are of equal importance. The common experience of life shows what a variety of causes are constantly modifying these fundamental operations. Affections of the mind change the appetite and digestion, and both the secretions and excretions, all of which are component parts of them. Sudden passion will deprave the character of the nurse's milk so as to produce sickness and vomiting in the child, as well as improper food. Grief will produce a bad taste in the mouth, a foul breath, a disturbed urine. Want of sleep will do the same, and will reduce the weight and the strength. Improper ventilation, foul air, poisonous exhalations, operate in an analogous way, also cold, heat, fatigue, &c. &c. Whatever, in fact, may be the primary effects of these various causes, their ultimate influence, so far as they are causes of disease, or preventives of recovery, depends upon their interference with the perfect performance of the great function of nutrition. In speaking, therefore, as we proceed, of the management of the patient as to many of its details, we are to understand that it is by their influence in this particular direction that their importance is chiefly to be measured.

In all forms and conditions of disease, both acute and chronic, the state of the patient as to sleep is an important consideration, both as regards his comfort, and also as regards the satisfactory

progress of his case. The nature of this condition of animal life we do not fully understand; we only know that it is a necessary one and having a vast influence on the state of the system. Its purpose seems to be to afford an opportunity, by the suspension of certain activities of the system which require the exhaustion of those powers that emanate from the nervous system, for the reinforcement of those powers. It is also during sleep that the repair of the tissues by nutrition is provided for. Not that all nutrition is suspended during our waking hours, or that all waste is suspended during sleep, but that in the two states of sleeping and waking there is respectively a large predominance of the repair and the waste. Sleep is not merely rest, as it has been sometimes considered, an entire rest of all the organs at once. It is something specifically different. It is a condition of an entirely different nature, and a condition for which rest is not in any sense a substitute. The mere fact of existence, without exercise, without fatigue, the simple going on of life, implies a certain expenditure of force, which renders necessary at certain intervals a suspension of those functions of the brain and nervous system which are subservient to the phenomena of mind. It is possible that ordinary rest might afford an opportunity for the nutrition of all these tissues, except those which are the agents of the mind. But it seems to be necessary for the repair of these, that the functions of the mind should be also suspended. Of the physical condition of the brain in sleep, and also concerning the peculiar state of the mind in sleep, notwithstanding the many theories which have been formed concerning them, we know nothing with certainty, and this is not necessary to the practical management of the sick. What should guide us is the knowledge that a certain amount of sleep at proper intervals is an absolute necessity, and that its absence or its deficiency is always a great evil, and to be prevented by every possible means.

In acute diseases a sufficient amount of quiet sleep is at once a favorable indication of the nature and issue of a case, and also is an important agent in the promotion of a favorable issue. Its absence, on the contrary, is, *pro tanto*, an unfavorable indication as to the issue, and also promotes an unfavorable issue. Want of sleep adds to the sufferings of the patient, and also to his exhaustion, and consequently interferes with the success of the sanatory process and impairs the power of recovery. In every point of view, then, the state of the patient in this respect becomes the object of special attention.

Salutary changes in the condition of a patient will be often found to take place during sleep, and to manifest themselves most obviously on awaking from that which has been sound and refreshing. But the sleep here is not so much the cause of the change as its consequence, and yet if any circumstance prevent the sleep, the favorable symptoms are less likely to occur. The general purpose



in acute disease is, throughout, to discover those circumstances which may prevent sleep, and endeavor to counteract them. Thus, the absence of sleep may be caused by an irritable and loaded state of the bowels, and then an enema may give relief; by the heat and irritation of the skin from a paroxysm of fever, and then cold sponging, the warm bath, a warm foot-bath with infusion of hops or poppies, may answer the purpose; or coldness of the feet may be the cause, and then warmth of any kind may be employed. Sleep should be procured without direct medication, where practicable, but this is not always practicable; and, when not, various articles can be given, which are sometimes successful. Such are all the ethereal medicines—tincture of hops and belladonna, and some others. But these very frequently fail, or succeed but for two or three nights. Where the evil is a very marked one, the experiment should be tried of procuring sleep by opiates. These, it is true, often fail, and often give occasion to a variety of uncomfortable feelings. How far these should influence us to abstain from their use, is one of the most delicate questions in practical medicine. As I shall have occasion to speak more particularly of the qualities of opium hereafter, in connection with some of its other uses, I shall only remark here that the procuring of sleep by it, is so important an object in many cases, that this beneficial effect is not to be sacrificed, where the necessity is urgent, without a fair trial of several preparations, and in more than one way. Where a full dose by the mouth either fails of effect, or produces unpleasant secondary effects, its administration by the rectum may succeed; and where full doses in both these ways fail, a repetition at short intervals through the day, of very small doses, such as five or six drops of laudanum, or its equivalent of some other preparation, will succeed. It must be confessed, however, that there are some patients so unfavorably affected by this drug, that in no way can it be endured.

In chronic diseases of all kinds, the same attention to procuring sufficient sleep is an important item in the treatment. In many cases where patients are afflicted with insomnolence as a prominent symptom, it will be found to depend upon some circumstance which is capable of removal. Thus, in some persons, taking any solid food after the middle of the day, or in others the entire omission of food, will prevent sleep. The remedy in such cases is sufficiently obvious. Where the sensation of hunger is the cause, the purpose is better answered by a meal of some very light digestible food, such as a cup of milk porridge, or of warm milk, than by anything more substantial and slow of digestion. Still to this, as to every rule of dietetics, there are many exceptions, but these are more likely to occur in persons who are not laboring under distinct disease, but are wakeful in their ordinary state of health.

The suggestions made with regard to acute diseases are, in

a general way, applicable also to chronic. Opium in these is less likely to produce immediate ill effects, and it is also easier to counteract them; but, on the other hand, since in acute diseases the absence of sleep is a temporary evil, and one which subsides at convalescence, its use is less likely to degenerate into a habit. In chronic cases, therefore, so far as its ultimate effects are regarded, this consideration is of no small importance. In acute cases there is seldom any danger that the patient will be led to the continued use of opium after he gets well, and we may therefore safely avail ourselves of its beneficial effects without regard to the future; but in chronic ones this is far from being the case, and it will sometimes happen, where patients have had comfortable sleep procured for some time by this drug, that it is very difficult to wean them from its use, when their disease has subsided. In persons of feeble resolution and of nervous temperament, it may be as hard to cure them of the habit of depending upon opium, as of the use of tobacco or of alcoholic stimulants.

When, therefore, there is a prospect that opium will be likely to be required for a long time, every expedient should be first employed in order to answer the purpose, and a considerable amount of wakefulness be endured, rather than resort to it. Besides the articles above mentioned as applicable in acute cases, there are others more peculiarly adapted to chronic, such as hearing reading aloud, the recurrence of monotonous sounds, repeating from memory, going through arithmetical or other calculations, with the eyes shut. The state of the skin may require alteration by a warm bath; of the feet, when cold, by warm applications; of the head, when hot, by cold sponging. The mind may need tranquillizing. A disturbed state of the nerves may be present, which sundry articles have the reputation of soothing, and perhaps with reason, such as valerian, assafoetida, musk, castor and camphor. There are some milder popular remedies, such as warm infusions of sage, balm or catnip, a cup of wine whey, or of spirituous liquor and water. Something of the efficacy of these may properly be attributed to their effect upon the patient's mind. His expectation of some effect from the remedy he has taken, and the direction of his attention to it, undoubtedly tends to render that effect more likely to occur. At any rate, sleep is sometimes thus procured, and occasionally by a succession of such expedients the object is secured for a long time, but more frequently they at length fail of any effect.

It sometimes happens that after a short nap on first going to bed, a person awakens without any known cause, and then remains obstinately watchful for many hours. In this case, if he rises, washes his face, hands and feet, walks about briskly for awhile and returns to bed, the charm may be broken and a continued sleep will ensue. Or he may rise and write or read with the same result. Too much or too little bed clothing in very sus-

ceptible persons, may prove a cause of wakefulness, even when the patient is not aware that he is too hot or too cold. The choice of measures must depend upon the condition of the patient, since it is obvious that many of those mentioned are not universally applicable. There is one injunction frequently insisted upon, viz., that drowsiness in the day should be resisted, lest it should prevent sleep at night. This is sometimes true, but not always. In a majority of wakeful persons, it has been rather found, that a nap in the afternoon does not prevent sound sleep at night, but rather promotes it. And this seems to be accounted for by the consideration, that the slumber in the day soothes and quiets the system, and removes that irritation of the nerves which is so likely to occur from various causes in the course of the day, and thus predispose to watchfulness in the night.

But in spite of every expedient, it must be confessed that this symptom is, in many chronic cases, an exceedingly difficult one to manage, and that many persons are at length obliged to rely upon some form of opium.

I have alluded above to the state of the skin in connection with the sleep. We may further speak of the state of this organ—a very important, as well as extensive one—as exercising no inconsiderable influence not only upon the comfort, but also the internal condition of the patient. A hot and dry state of the skin on the one hand, or a cold, contracted and shrunken one on the other, are always attended with discomfort, and should be remedied as far as practicable. It is to be acted upon as a general rule, to bring the skin as nearly as possible into its natural condition. Hence, a dry and hot skin should be kept moist and cool; a cold and very damp one, warm and dry; a contracted and shrunken one, active; by suitable applications. True it is only effects of disease which are thus removed, but the removal of effects may aid in the removal of causes—as correcting the very hot, dry skin, which attends pain in the head or fever, often diminishes both. An imitation of the natural soft state of the skin, where it is very hot and uncomfortable, by sponging with a mixture of glycerine and water, removes the irritation it occasions, and thus secondarily may reduce the pulse and respiration. I do not speak of these as direct remedies of disease, but as alleviants of symptoms, and thus aiding the progress of recovery according to its natural law.

We sometimes find the skin in a state which contributes not only to great discomfort, but seriously impedes recovery. It is soft, flabby, moist and pale. It has a sodden look and feel. The hands and fingers are corrugated as if they had been soaked in warm water. This is sometimes an effect of disease, but not unfrequently merely of mismanagement. In disease it occurs under various circumstances, as in hectic fever, acute rheumatism, inflammations within the abdomen—both mucous and serous—in many of the lesser puerperal affections, and in mammary abscess. Where

not an essential product of disease, we find it has been produced by too warm and too close a room, and too much clothing to the person and the bed. Thus there are those, both among patients and nurses, whose chief apprehension in sickness is a nervous dread of cold. We find the sick person in bed, cased in all or more than all, the flannel and other appendages which are worn in health. If a woman, as is apt to be the case, she retains the woollen waistcoat, drawers and linen with which she got into bed when first seized; to this she has added a pair of woollen stockings and a thick petticoat. Thus equipped, the skin has become tender and sensitive. The least movement of the bed-clothes, or the slightest draught of air, produces a feeling of chilliness, and blanket and comforter, one after another, are heaped upon her; a muffler is pinned around her head, a shawl drawn around her shoulders, a jug of hot water is placed at her feet, the windows are hermetically sealed, and she is fed with hot teas. She still has frequent chills, and you find her hot, nervous and restless. Yet the essential symptoms may present nothing alarming. The pulse, though excited, may be very good, the tongue tolerably clean, the appetite not deficient, and no want of sleep except what may be fairly attributed to her surroundings, and these would rob the healthy of it. Here we have to regard the real tenderness of the skin, which has been thus created, and the nervous apprehension of the sufferer; but by removing all incumbrances from the person except a single loose cotton or flannel gown, by reducing gradually the burden of bed-clothes, by admitting cool fresh air into the room—avoiding its direct flow upon the person—by administering cooling drinks, and drying the skin thoroughly by sufficient frictions, the patient speedily passes from a state of comparative torment of body and mind, to one of ease and tranquillity.

Where this condition has not been artificially induced in a mild case, but accompanies a grave disease, the same general measures are adapted to mitigate it and give comfort, even although it necessarily continues. The cause and character of a permanently too copious sweating, is different in different cases. The sweat is sometimes sour, sometimes foetid, sometimes highly saline, of a urinous odor or ammoniacal, or quite sticky and slimy. Various expedients for relief will suggest themselves, according to different circumstances, such as warm dry friction with a cotton or woollen towel, rubbing the skin with absorbent powders, such as powdered chalk, Indian meal or bran applied with a woollen mitten—washing with soap and water, with an alkaline solution, with a weak acid, with alcohol more or less diluted, and applied either warm or cold, according to the heat or any other possible indication, as the preference of the patient and its effects. Whenever articles are used which leave any residuum upon the skin, this is from time to time to be carefully sponged off. Merely bathing the whole body with olive oil, as in the sweats of phthisis, will be

occasionally found to give some relief. Many articles internally administered have the reputation of diminishing these perspirations which are so debilitating to many persons afflicted with exhausting chronic diseases, especially phthisis, scrofulous affections of the joints and chronic suppurations of all kinds. Among these, diluted sulphuric acid is most commonly employed and most effectual; but, besides this, acetate of lead, oxide of zinc, gallic acid, and other vegetable acids, are found more or less efficacious. Usually, however, the corrective influence is transient, and continues but a few days before the symptom returns. Sometimes the simple expedient of clothing the patient in a loose, light flannel night-gown is more successful and durable than anything else.

(To be continued.)

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#### EXTRACT OF FLESH FOR ARMY USES.

[Communicated for the Boston Medical and Surgical Journal.]

MESSRS. EDITORS,—Not having seen any allusion in the reports or statements of the Army Surgeons, or the Sanitary Commissioners, respecting the dried Extract of Flesh, I infer that attention has not been called to this important article for army purposes. It is a nourishing, easily assimilated food, in the most concentrated form. Enough can be stored in an ordinary watch-fob to sustain a soldier a week. It might, however, be regarded as too expensive for ordinary use, but in the hospitals, and on the battle-field, it would be almost criminal to fail to supply it, if the experience of military surgeons agrees with that of many eminent chemists and physicians. Parmentier, in the *Annales de Chimie et de Physique*, Vol. XVIII., p. 177, thus speaks of it:—"The dried extract of flesh, as an article of provision in the train of a body of troops, supplies to severely-wounded soldiers a restorative or roborant, which, with a little wine, immediately revives their strength exhausted by great loss of blood, and enables them to bear the transport to the nearest hospital." Liebig, in his work, *Chemistry of the Food*, remarks, "It appears to me to be a matter of conscience to recommend to the attention of governments the proposal of Parmentier. I consider this extract of flesh as not less valuable for provisioning of ships and fortresses in order to preserve the health of the crew or garrison, in those cases where fresh meat and vegetables are wanting."

It is stated that it is used in the French and Austrian armies, with the approval of the most eminent military surgeons. Its use among the wounded on the battle-field might be the means of saving many valuable lives. The exhaustion and sense of intolerable thirst, might be in a measure removed by a single draught from a canteen filled with the rich soup resulting from the solution of a half ounce in a pint of water. A half ounce represents the whole amount of nutriment in a pound of fresh beef.

Its method of preparation is very simple, and when conducted on a large scale, with steam apparatus, cannot be very expensive. The whole process consists in taking lean beef, free of bone and fat, chopping it fine as when used for sausages or mince-meat, and mixing it with its own weight of cold water. It is then slowly heated to boiling, and allowed to boil briskly for a moment or two, when it is strained through cotton cloth, to separate the coagulated albumen and fibrin. The evaporation to dryness of the solution, must be conducted at a low temperature by a water bath or steam heat. The powder is readily soluble in water, and nearly eighty per cent in alcohol. Its degree of solubility in alcohol is a test of the genuineness of the extract. If a less quantity than seventy-five or eighty per cent is soluble, it should be regarded as spurious, or imperfectly prepared. The experiments of Proust and Liebig abundantly prove, that those constituents of soup upon which its taste and nutritive properties depend, exist ready formed in the flesh, and are not in any way products of the operation of boiling. The extract will remain unchanged for a long time, if properly dried. A specimen prepared nearly a year since, I find, upon trial, to be perfect, and forms in solution a grateful soup, having all the characteristic odor and taste of the fresh article.

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JAS. R. NICHOLS.

### Bibliographical Notices.

*An Improved Method of treating Fractures of the Thigh.* By GURDON BUCK, M.D. New York: S. S. & W. Wood. 1861.

THE pamphlet with the above title is a paper which was presented to the New York Academy of Medicine, and consists of a description of the apparatus used by its author, with the history of twenty cases of fracture in which it was applied.

Whenever a variety of drugs are recommended for their efficacy in a given disease, the inference is that it is not amenable, or only in a minor degree, to any of them. If the same is true in surgery, we should say that the ingenuity spent upon certain supposed desiderata in apparatus for fractured thigh, augured unfavorably for the satisfactory success of any mechanical means in the treatment of this accident. Considering its usually favorable termination, we are inclined to think that, up to a certain point, this observation may be considered as true, and that the various splints, beds, inclined planes, &c., which have at different times and places been thought so near perfection, may, many of them, be deprived of much of their machinery, or even abandoned altogether, without inconvenience to the surgeon, or detriment to the patient.

Of the numerous appliances, however, which deservedly maintain their reputation, the apparatus described in the paper before us, and introduced by Dr. Gurdon Buck, of New York, commends itself before all others for its simplicity and lightness, for its manifest efficiency, and, compared with many methods in use, for the comfort with which

it may be worn. To get rid of the short splint on the inside of the limb, and still better of the long outside one, to cast off the "surcingle" which accompanies a "Dessault," and successfully to reduce the trappings of a fractured thigh to a bandage, short coaptation or compressing splints, two India-rubber springs, and some bottles of water, is an achievement which cannot be regarded otherwise than as an immense improvement over the means commonly adopted in the management of this injury.

In the light of the generally accepted opinions as to extension and counter-extension, Dr. Buck's apparatus must be considered one of the best yet invented to fulfil the ends it has in view; whether it will, in the hands of others, accomplish results equal to those recorded by its skilful originator, remains to be proved. So many considerations determine the final issue of a broken thigh—and none more than the time which elapses between the accident and the "setting" of the bone—that to expect recovery without shortening, except in children, or as an occasional event in the case of an adult, is hardly to be permitted. Fortunately, shortening, within certain limits, is not a serious consequence. It often passes unnoticed after fracture of the leg, and the compensatory curvature of the spine and inclination of the pelvis on the side of the shortened limb, in most cases gradually meet the inconveniences and lameness which accompany it, at whatever part of the extremity the fracture may have occurred.

The question suggests itself, then, whether extension and counter-extension is, after all, so absolutely necessary as has been taught. There are those who think not. More than ten years ago, in a foreign hospital, we saw a patient treated for fractured thigh by compressing splints alone, with only a bottle of water tied to his foot to keep the limb straight, and in whom the ultimate result was as good as would usually be expected. M. Velpeau has recently declared (*Gaz. des Hop.*, No. 101) that he looks with little favor on the numerous extending and counter-extending apparatus to prevent shortening after fracture of the thigh; and Mr. Syme says: "There are few principles more firmly established, or, as it seems to me, more entirely erroneous, than that extension is essential for the successful treatment of a fractured thigh-bone. I long believed and taught this as an incontrovertible truth, but for some time past have been satisfied that it is equally unsound in theory and opposed to good practice."—(*Obs. in Clinical Surgery*, Edinburgh, 1861.) He accompanies this statement with a table of sixteen cases, treated without extension, in the Edinburgh Royal Infirmary, between Sept., 1859, and March, 1861. In one of these cases the two limbs, at the close of treatment, were of the same length; in another, the shortening amounted to one inch, owing to the complication of a fractured leg; in the remaining fourteen it varied from one half to three fourths of an inch, but in no instance made any difference in the gait of the patient.

Let us contrast these with Dr. Buck's results, who himself admits that the perineal band of his own apparatus may be, under certain circumstances, dispensed with altogether, especially in the treatment of heavy, female patients and young children. It does not appear, however, that any of the cases which he reports were treated otherwise than by extension and counter-extension combined. We throw out of consideration from his table two cases of impacted fracture of the cervix; one in which a previous fracture of the same bone had left a

degree of shortening not ascertainable with certainty, and another in which this had been already produced by disease of the hip-joint. In the remaining seventeen cases the extremes of shortening vary from nothing to one inch and a quarter, whilst the average is a fraction less than one half an inch. One patient, an adult, recovered without any shortening, and two with one eighth and one quarter of an inch respectively. Three children, under six years of age, regained limbs of exactly the same length, and two, of twelve years of age, had each a shortening of half an inch.

These results are certainly admirable, though many persons perhaps will be surprised that there is not a greater contrast in the two tables just cited, advocating opposite modes of treatment. In face of so slight a difference, does it not appear probable that the simplest apparatus, with broad, well-strapped compressing splints, and an attentive and judicious surgeon, will keep shortening within limits, and accomplish all which art or machinery can do to prevent lameness; and if this does still occur, that it is due to the peculiarity of the fracture or to circumstances beyond the influence of treatment.

The facility with which Dr. Buck's plan may be carried out, and its simplicity and economy, can hardly fail to make his improved method recommend itself to any one who witnesses it in use. If not equal to the accomplishment of all which the surgeon can hope to effect, is it not the forerunner of a more rational treatment of a most serious accident, and another admission that Nature in traumatic lesions may achieve as great triumphs as she does in disease?

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### **Army Medical Intelligence.**

[From our Special Correspondent.]

WASHINGTON, D. C., JAN. 7, 1862.

MESSRS. EDITORS,—I had the pleasure a few weeks since of seeing a very interesting case at its commencement, and I have followed the case up to the present time with much interest. Dec. 12th, 1861, private J. H., Gen. Buel's Body Guard, while riding across Long Bridge was thrown from his horse a distance of eighteen feet, striking against a baggage waggon going in advance of him. The horse followed and trod upon the tibia of his left leg, causing a compound comminuted fracture of both the tibia and fibula, with a flesh wound nearly three inches in diameter. But this was not all. The hoof of the horse struck next upon the scrotum, making an incision an inch and a half long, but fortunately not injuring the testicle. It also made a scalp wound of two inches in length. The under lip was cut fearfully in the right corner, the inferior coronary artery also being divided, and bleeding quite freely. Half an inch of the upper lip, just at the left of the median line, embracing its whole breadth, was completely gone. Here the superior coronary artery was divided, and blood was flowing freely. In falling, the patient had bitten his tongue, severing it from the tip down towards the base to the extent of two inches. His nose was fractured, and a wound on the left ala communicated with the nasal bones. All these wounds, together with the dirty condition of the patient, who was bespattered with mud, presented a woful ap-



pearance. He was brought to the 5th Street Hospital (a branch of the E Street General); his leg was placed on a double inclined plane; the coronary arteries were tied, and the wounds in scalp and scrotum brought together with sutures; the nose was placed in good position; three sutures were put in the tongue, very deep, that they might not slough away; the wound in the upper lip was trimmed and then brought together with three silver hare-lip pins, and the wound of the lower lip treated in the same way.

Dec. 19th.—The hare-lip pins were removed, and the contraction of both lower and upper lip was nearly the same, making them, of course, somewhat compressed, but equally so. The tongue was entirely healed, and the ligatures were removed. Perfect taste was enjoyed, even on the tip of the tongue. The wound of the leg was poulticed, and suppurates considerably. Bare bone could be seen and felt.

Jan. 5th.—The wound had ceased suppurating, though bare bone could still be seen. The double inclined plane was removed, and a most excellent splint applied. It consists of Canton flannel, thickly besmeared with the finest plaster of Paris, which immediately hardens. This is now commonly used in this hospital, and with unvaried success. The patient is able to walk about, the splint being of the firmest character.

This case has been very interesting to me—first, from its novel features; and, secondly, from its satisfactory results. II.

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#### QUALIFICATIONS AND DUTIES OF THE REGIMENTAL SURGEON.

[Communicated for the Boston Medical and Surgical Journal.]

I PROPOSE, in continuation of my remarks on the Army, to speak at present on the qualifications and duties of the Regimental Surgeon.

*Qualifications.*—The qualifications, as far as my observation goes, of a regimental surgeon, should be, First, a good general medical education, accompanied with a knowledge of as many modern languages as possible. Secondly, he should have had eight or ten years' experience in the practice of his profession, with a disposition to pay particular attention to the surgical portion of it. Thirdly, he should be a man of good constitution, in good health, with a considerable amount of executive energy. Fourthly, he should be a gentleman, and accustomed to good society. Fifthly, *he should not use intoxicating drinks as a beverage.*

These qualifications will be demanded in the daily performance of his duties, and in no case should any one of them be wanting.

The position of regimental surgeon is one of great delicacy and responsibility, and the incumbent should be free from the suspicion of corruption. He stands between the government and its just demands on one side, and the passions, interests and inclination of the soldier on the other. The highest in command are not beyond his influence, or too elevated for the sphere of his beneficence; while the common soldier depends on him for a thousand favors, and even sometimes for life itself. The surgeon must be able to associate with equal dignity and propriety with the private and his commander; with the general and with the corporal. In closing this portion of my remarks, allow me to say that it is a duty he owes to his profession, on all occasions to insist upon a full acknowledgment of his military rank and standing. If I have observed rightly, there is a strong disposition among

the officers who denominate themselves combatants, to ignore the military rank of the peaceful and amiable surgeon. This rank is distinctly marked in dress, on military parade and in battle. Let the surgeon always insist, quietly but unflinchingly, on his military rank. I need not open the discussion on this subject, since it has been so well and effectively argued by my predecessors in the army. There are one or two points, however, I will mention.

First, The rank of major and its pay are, in my estimation, scarcely equal to the responsibilities of the position of regimental surgeon.

Secondly—(This is going out of the track a little), On being promoted, as it is called, from regimental to brigade surgeon, where the responsibility is increased some three to six fold, there ought to be a corresponding advancement in rank and emolument.

I have spoken enough of the qualifications of regimental surgeons, I will now proceed to state some of his duties.

The first great duty of the surgeon, of course, is to attend to the wants of the sick. For this purpose, in a new regiment, he must get his hospital properly organized, well supplied with medicines, beds, bedding, cooking utensils and furniture. The particular mode of doing this, is laid down in the regulations quoted. These regulations he must follow explicitly, *verbatim et literatim*. With all the care he can give to it, however, he will find many vexatious delays, and what will appear to him unnecessary hindrances. He will find, especially, that his table of supplies (medical) for field-service, will appear to him exceedingly inadequate to the demands of the service. He will be surprised to find but one tonic in his *materia medica*; and that only the simpler remedies, in the way of cathartics, &c., will be found there. This can be remedied more or less by special requisitions, and personal application at head-quarters. His hospital officers demand his special care. He has to select them from the ranks, and he does not desire to weaken the army by placing strong men in these positions. He will find one man or boy who has spent some time in an apothecary's shop; him he will make pharmacist to his hospital. He will find another who has been a nurse; him he will make his hospital steward. Others, who are unfit for active duty, may be transformed into nurses (taking one from each company), cooks, ward-masters, washer-women, &c.

In his little kingdom his eye must be everywhere. At his early morning, or sick call, he must be found in the hospital, dressed with military precision, his ward-master, steward and assistant around him, with the sergeants of the different companies, books in hand, each one followed by the sick of his company. He sits down and calls for the sergeant of company A, who in turn reads his list of sick, bringing each one before the surgeon, who questions the patient, prescribes the remedies, dictates the treatment, and tells the sergeant whether the man is fit for whole duty, half duty, or no duty. This is a delicate part of his programme; the commanding officers are anxious to distinguish between the lame and the lazy, between the sick and those who feign to be sick. The surgeon cuts the Gordian knot, and while he protects the weak, inexorably condemns the lazy to duty. Thus he proceeds through the whole regiment, and often prescribes during the morning for from seventy to one hundred men. This is evidently no child's play. The ulcers, wounds and other sores are handed over to some of the hospital officers to be washed and dressed. The ward-

master stands at the surgeon's right, and keeps a record of the cases and their treatment, from which, in less than two hours, he makes his morning report to the commander of the post. The hospital steward sees that the medicines are given to the patients as directed, and supervises the administration of everything. The assistant surgeon attends to such duties as are assigned to him, and after the morning clinic, accompanies him through the wards of the hospital, where the ward-master still retains his position as clerk; the hospital steward gives an account of the treatment during the last twenty-four hours, and the assistant surgeon dresses and re-dresses fractures, wounds and other injuries, under the direction of the surgeon.

The latter then passes into the cooking and washing departments, looks after the supplies of the day, and finishes his morning round by returning leisurely to his tent. On his way he meets one sick man who was asleep when the call was made, another who wanted to see him privately, and another who wanted to tell him a long story about getting out of the service. In the midst of these interruptions, the surgeon detects the quick, sharp sound of the "officer's call," finds himself in a few seconds amid a crowd of others before the Colonel's tent, and is horrified at some terrible outrage that has taken place during the night at the camp, as reported by the Colonel. Some one has passed the guards without the countersign, or some luckless sentinel has been found sleeping on his post, or there has been "revelry by night." To all this the surgeon shrugs his shoulders, leaves his fellow officers, sits down in his tent, receives the visits of his friends, generally in the form of patients, and attends to the miscellaneous duties of his office during the day.

It is of course understood that he has made proper selection of his site for the hospital; that he has avoided a position where the prevalent winds would carry miasm from a neighboring marsh; that it is near plenty of spring water; that the ground is high and dry, that it drains itself, and is far enough from the camp to be out of the effluvia of the latter, and yet not so far as to make it troublesome for the patients to get to it. He takes care to have his hospital frequently well ventilated, has a sink prepared expressly for its inmates, allows no offal to collect around the hospital, sees that the officers keep the beds and bedding clean and frequently renewed, draws out a set of rules and regulations for the hospital, has them written out and hung up in a conspicuous place, and, in general, guards the interests of the institution with paternal care and solicitude.

I would recommend the surgeon to be scrupulously careful in his dress, as well as in his address. Let him dress equal to his rank always. While I would not recommend that he should be distinguished for primness, or exhibit the characteristics of a *petit maître*, his linen and skin should always be clean, his boots properly blacked, and nothing worn but what belongs strictly to his office. The disposition to adapt himself to the low habits of officers or men, will unfailingly degrade him, and he will not receive the respect due to his position.

But space does not permit my continuing this catalogue of duties. Should you think well of it, I will continue it in my next.

Respectfully yours,

JAMES BRYAN,

Brigade Surgeon to Gen. Burnside's Expedition.

THE following letter is from Surgeon Green, of the 24th Massachusetts Regiment.

To the Surgeon-General.

{ CAMP FOSTER, NEAR ANNAPOLIS, MD.,  
December 29th, 1861.

SIR,—I have the honor to report that the sanitary condition of the 24th Regiment is remarkably good. We have now been encamped two weeks in this place, distant two miles from Annapolis, in the immediate vicinity of ten other regiments. Our camp is situated on an elevated plain, commanding a fine prospect, and to a certain extent overlooking the town. Fortunately, the weather has been fine, it having rained but one day since our arrival. The nights are rather cold, though we do not suffer. The tents are all provided with stoves, which keep the men comfortable. The hospital, consisting of two large wall tents joined together, is situated on the right of the line, a short distance from the Field and Staff. The floor is well boarded, and it is heated by a stove. The largest number of patients at any one time in the hospital, has been four. The average daily number sick in quarters, has been twelve or fifteen. These are principally slight bronchitic affections and rheumatic pains in some parts of the body. Occasionally a case of minor surgery presents itself. All who are marked *excused* at surgeon's call are reported *sick in quarters*. Our third hospital tent is pitched at right angles with the south end of the hospital, and is used as an apothecary shop. It is here that Dr. Curtis and myself receive our morning visitors, who are escorted hither by the first sergeants of their respective companies, at surgeon's call. They bring a list of the sick, and against their names is written whether fit for duty or excused. Thirty or forty usually present themselves in this manner, though the number varies, depending somewhat on the weather. Of these, about a dozen are excused. As yet, we have not had any cases of measles, but as it is prevailing in the immediate neighborhood, we cannot much longer remain free from it.

On Thursday last, I was ordered to take charge of the Division Hospital, where the more serious cases are sent from the various camps. We have about fifty patients there at present, including twenty cases of measles. It is found rather difficult to treat successfully certain diseases in tents. Rheumatic complaints, especially, are rather obstinate when treated under canvas.

Last night, or rather early this morning, the various surgeons of this Division were aroused from their slumbers by an order that all sick in hospital or quarters should be ready to be removed this morning at nine o'clock on board of the hospital ship, which is to accompany the expedition. The ship (?) is a large schooner fitted up for the occasion, and capable of carrying more than four hundred persons, with good accommodations. It is intended to carry in this vessel only those whose illness is of a light character, and the convalescing. Those seriously ill will be left at Annapolis, to follow at some future day. From this order one would infer that the expedition would sail very soon, and that General Burnside did not intend to be delayed by the sick. As a consequence, our regimental hospitals are entirely empty.

Of the Assistant Surgeon, Dr. Curtis, I can only say that he is remarkably attentive to the wants of the sick, and that his services are of great value.

Yours, &c.,

SAMUEL A. GREEN,

Surgeon 24th Reg't Mass. Vols.

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 THE BOSTON MEDICAL AND SURGICAL JOURNAL.
 

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 BOSTON: THURSDAY, JANUARY 16, 1862.
 

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FREE CITY HOSPITAL.—Since the first proposition for a City Hospital, in 1849, by the gentlemen who had charge of the temporary hospital for cholera, on Fort Hill, and to whom the want was forcibly suggested by the many applications there for patients with other diseases, the project has not been lost sight of by its friends, but has gradually grown in importance, and has steadily gained in favor with the profession and the public.

In 1857 the subject was formally brought to the notice of the City Government by Alderman (now Mayor) Wightman, in an able report, the result of which was the purchase of the building originally constructed for a lying-in hospital, on Springfield St. For various reasons, this was never occupied, and was subsequently re-sold.

In February, 1860, Dr. Clark, at the request of Mayor Lincoln, transmitted to the City Council a definite "plan for a Free City Hospital, with suggestions as to its location, structure, organization and support." This was accompanied with engraved diagrams of ground plans, and also with designs for the various buildings. It is not necessary here to go into the details of the plan for its support and organization, but we will only refer to the classes of patients proposed to be provided for, because the present state of the enterprise seems to require it. These were :—

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| 1. Contagious diseases, smallpox, measles, &c.                             | } with separate wards<br>or buildings. |
| 2. Lying-in cases.   |  |
| 3. Consumption and chronic incurables.                                     | } for both sexes.                      |
| 4. Delirium tremens, convulsions, and other cases from the station houses. |  |
| 5. For cholera and other epidemics.  |  |

This paper was referred to a joint standing committee of the City Council. In the winter of 1861, this committee, having taken various opinions on the subject, and having satisfied themselves of its importance and utility, advertised for plans, offering a premium of \$300 for the best. Sixteen or seventeen, of various degrees of merit, several of them very elaborate and beautiful, were presented. That from the office of Mr. Bryant, and now understood to have been designed and planned by the late City Physician, obtained the premium offered by the committee, and, in an elaborate report, accompanied with plans and elevations, by the chairman, Thos. C. Amory, Esq., was recommended to the Council for adoption, with a request for an appropriation of \$100,000, the amount estimated as necessary to construct the main building and two pavilions of the six or eight the lot would accommodate. The report was accepted, the plans adopted, the money unanimously voted, and the Hospital Committee, in conjunction with the Building Committee, directed to proceed in its erection. Up to this period, the Consulting Physicians and various other gentlemen, some of them connected with the public institutions of the City, were freely and often consulted.

The friends of the enterprise, having watched its progress up to this point, congratulated themselves that it was "*au fait accompli*," and that we should have, what had been so long needed, a hospital, in whose unpretending but numerous pavilions the sick, now unprovided for in any existing institutions, would be comfortably but economically supported and treated. But, alas! as if no plan of this sort, however well prepared, could escape the fate which usually befalls all city buildings, it has been spoiled by the *unadvised* acts of the committee, who have, by various means, been induced to adopt a *new* plan, which, while it leaves out of sight the most important wants of the institution, and while it very much limits the useful accommodation of the lot and the building, excluding contagious diseases and lying-in cases, will cost more than double that of the original plan. We therefore hope that the matter will be a subject of investigation in the City Council, and that the profession will take so much interest in it as to express their opinions to such of the members of the Council as they can influence, to prevent the consummation of a project which, in its present form, seems intended "to furnish a pleasant resort for trustees and committees, rather than for the accommodation of patients."

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INFLUENCE OF THE POSITION OF ANIMALS UNDER THE EFFECTS OF ETHER.—*Messrs. Editors*,—Since the publication of my Manual of Etherization, I have had an opportunity of learning some additional facts in relation to the influence of the position of animals while under the effects of ether. Dr. Petrie had urged the importance of position in the administration of chloroform, and I had done so with regard to etherization, so far as concerns the human subject. Subsequently, I had occasion to converse with a very intelligent and skilful veterinary surgeon, who resides near Boston (Dr. A. B. Wilton, of Dorchester), from whom I obtained the results of his extensive experience in operating upon domestic animals, under the influence of ether.

He informed me, that if a horse is etherized and laid on his back, with his nose up, he will certainly die, owing to the falling back of the tongue, and the consequent pressing down of the epiglottis, so as to produce suffocation. He mentioned four instances, in which he had witnessed the death of horses, during the operation of castration, from the effects of ether and the above-named position. His experience with ether had also proved that death from it never takes place if the horse is laid on his side, with his nose horizontal. His experience has also been extended to the etherization of cows, particularly in cases where mechanical aid was required in removal of the calf, and he has never lost one of them from the effects of ether. When he has had occasion to kill useless horses or dogs, he has made use of ether, aided by the position named, and he says that they die easily, without a struggle—asphyxia resulting from closing of the glottis during the anæsthetic state. These facts corroborate those observed on the human subject by Dr. Petrie, of Liverpool. See *Brailhwaite's Retrospect*, Part xliii., p. 275.

Boston, January 11th, 1862.

C. T. JACKSON.

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QUININE IN THE DROPSY OF SCARLATINA.—Dr. Hamburger has given this drug in forty-seven cases, and in forty-four improvement took place at once or in a very few days: in three cases only was there no change either for better or worse. The effects observed were, a dimi-

nation of the febrile symptoms of the subacute period, increase of the urinary secretion, which became more clear, absorption of the effused fluid, even the resolution of abscesses already formed, return of appetite and strength. The urine, nevertheless, continued to be albuminous for some time, but this was no obstacle to the progress of convalescence.

According to the summary which Dr. H. gives of his observations, it is in the chronic form of scarlatinous dropsy that the action of quinine gives the best results, and is manifested with the greatest rapidity; in cases of this kind improvement commences almost immediately after the first doses. At the commencement, so long as the acute period continues, the employment of quinine may be deferred for a few days, unless the danger is imminent.

On many occasions, Dr. Hamburger has seen the condition of the patient remain the same for many days, or to be gradually growing worse, the urine becoming very dark, and the dropsy increasing. The quinine was then given boldly, and a happy result was the consequence. If a marked improvement is not manifested at the end of three or four days, the remedy must be dropped; but even in this case it should not be regarded as entirely useless, for it seems to act upon the specific character of the disease.

The dose to be given is from half a grain to two grains, twice a day, for children, and three or four grains for adults. During the use of the quinine the diet should be carefully watched, great care being taken to avoid over-tasking the very irritable alimentary canal by overloading it with food or drink.—*Gaz. des Hop.*, from the *Brit. Med. Jour.*

THE *Gazette des Hopitaux* publishes an extract from a letter from Tours which says, "in the month of September, 1860, the Prefect of Indre and Loire requested the physicians of the General Hospital of Tours to permit a certain number of the sick of that establishment to be treated by a new method of curing asthma, discovered by a lady, a pupil of the Imperial School of Midwifery, at Paris. This treatment, which consists principally in the application of the tincture of iodine to the chest of the patient, aided by a sort of kneading process, produced a decided relief in every case; in many instances, according to our correspondent, complete cures, lasting for more than a year, had been obtained.

"If this success continues, it will be a real service rendered to so numerous a class as the asthmatics, by the inventor of this process, who, besides, makes no secret of its mode of application."

ÆGOPHONY: ITS SIGNIFICANCE.—M. Landouzy, in a letter on this subject, published in the *Gazette des Hopitaux* of Nov. 12th, 1861, says: "Autopsies of patients who presented this sign, thoracentesis, repeated examinations of cases of pleurisy of every type, have proved to me that ægophony neither announces the existence of an effusion, nor its amount, nor its limits; but only a condensation of the pulmonary tissue, analogous to that which produces bronchophony."

In the JOURNAL for Dec. 26th it was erroneously stated that Dr. J. H. Warren went from Massachusetts as surgeon to one of our regiments. We are requested to correct the mistake, and to state that he was first appointed Brigade Surgeon, and was afterwards assigned as such to Casey's Division, where he now holds the post mentioned in the previous notice.

M. CHASSAGNY, of Lyons, has proposed an ingeniously constructed amygdalotome, resembling Fahrenstock's instrument. The straight fork is replaced by horizontal hooks, which draw the hypertrophied gland into the ring of the guillotine. That it is now and then very difficult to get the tonsil into the ring, every operating surgeon knows.—*London Lancet*.

MISCELLANEOUS.—The highest temperature, last summer, in Great Britain, at any of the sixty stations from which the Registrar-General receives returns, was 89°.5. Last year the highest was 81°; in 1858, 97°.—Dr. J. I. Rooker states, in the last number of the *Cincinnati Lancet and Observer*, that a patient on whom he performed double castration, a year ago, for epilepsy and masturbation, has improved very much in health, and he is well pleased with the result.—Dr. E. M. Snow, City Registrar of Providence, R. I., publishes a complete table of deaths and their causes during the last year in that city. The whole number of deaths was 1051; last year, 1001; average for five years, 981. Population of the city in 1860, 50,666. Ratio of deaths last year, 1 in 48.2.—Rye charcoal is said to be much used in Paris as a tooth-powder.—An association, called the Army Medical Society, has been formed at Cairo, Illinois, composed of the Surgeons and Assistant Surgeons of the various regiments and hospitals at that place, at Bird's Point and Mound City. A meeting is held once a week, when papers are read, and matters connected with army surgery discussed.—The fatal cases of scarlatina in London for the week ending Nov. 2d, were 94; of diphtheria, 18; whooping cough, 35.—Dr. Neligan has resigned the editorship of the *Dublin Quarterly Journal of Med. Science*, and is succeeded by Dr. George H. Kidd.—Hon. William Appleton, of this city, has made a recent donation of \$10,000 to the Mass. General Hospital, to be added to former donations by himself and others (making \$30,000 in the aggregate), for the purpose of enabling patients to remain a longer time in the hospital when necessary for a more complete cure.—The number of sick in the Potomac army hospitals continues, it is said, gradually to increase, the unfavorable season, probably, being the cause. The latest official reports show 1,197 sick soldiers, of whom 487 are in the General Hospital at Alexandria. There are 83 in the Eruptive Disease Hospital at Kalorama.—On the last day of November there were reported, at Fortress Monroe, 12,213 enlisted men, and 498 officers. There were 4009 cases treated during the month; of these 166 were sent to the General Hospital, 2820 were returned to duty, 19 received furlough, 75 were discharged from service, 1 deserted, and 38 died. There remained sick, 375, and 519 convalescent. Of the sick, 365 were cases of diarrhœa.

#### VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, JANUARY 11th, 1862.

##### DEATHS.

	Males.	Females.	Total.
Deaths during the week, . . . . .	41	37	78
Average Mortality of the corresponding weeks of the ten years, 1851-1861,	41.2	37.5	78.7
Average corrected to increased population, . . . . .	..	..	87.78
Deaths of persons above 90, . . . . .	..	..	..

##### Mortality from Prevailing Diseases.

Phthisis.	Chol. Inf.	Croup.	Scar. Fev.	Pneumonia.	Variola.	Dysentery.	Typ. Fev.	Diphtheria.
8	0	1	3	4	0	0	1	1

##### COMMUNICATIONS RECEIVED.—On the prevention of Consumption.

DIED.—In this city, 7th inst., Dr. John B. Bridgman, aged 58 years.—In Shrewsbury, Jan. 12th, John E. Hathaway, M.D., 34.

DEATHS IN BOSTON for the week ending Saturday noon, January 11th, 78. Males, 41—Females, 37.—Accident, 2—apoplexy, 2—congestion of the brain, 1—inflammation of the brain, 1—bronchitis, 4—cancer, 4—chlorosis, 1—consumption, 8—convulsions, 4—croup, 1—debility, 3—diarrhœa, 1—diphtheria, 1—dropsy, 1—dropsy of the brain, 5—epistaxis, 1—intermittent fever, 1—scarlet fever, 3—typhoid fever, 1—hæmoptysis, 1—disease of the heart, 2—infantile diseases, 5—congestion of the lungs, 2—gangrene of the lungs, 1—inflammation of the lungs, 4—marasmus, 1—old age, 1—paralysis, 2—pleurisy, 2—premature birth, 3—suicide, 1—unknown, 6—whooping cough, 2.

Under 5 years of age, 37—between 5 and 20 years, 5—between 20 and 40 years, 9—between 40 and 60 years, 13—above 60 years, 14. Born in the United States, 60—Ireland, 15—other places, 3.